WHAT IS CLAIMED:

1. A graft delivery system comprising:

a first elongated instrument that is insertable into a patient's vascular system, wherein said first elongated instrument comprises an aortic catheter and an aortic guide device capable of navigating said aortic catheter to said patient's aorta at a pre-determined location and is capable of protruding outside of said aorta;

a second elongated instrument that is insertable into said patient's vascular system, wherein said second elongated instrument comprises a coronary catheter and a coronary guide device capable of navigating said coronary catheter to a coronary artery at a pre-determined location and is capable of protruding outside of said coronary artery;

a retrieving device capable of retrieving said aortic guide device and said coronary guide device and extracting said aortic guide device and said coronary guide device through a thoracic aperture in said patient; and

a third elongated instrument that is insertable from said exterior of said patient's thoracic region into said patient through said thoracic aperture and is capable of being navigated by said coronary or said aortic guide device.

2. The graft delivery system of claim 1, wherein said first elongated instrument further comprises at least one stabilizer to place and hold said first elongated instrument in a pre-determined location.

3. The graft delivery system of claim 1, wherein said aortic catheter is capable of protruding outside of said patient's thoracic region.

4. The graft delivery system of claim 1, wherein said coronary guide device comprises a flexible wire.

5. The graft delivery system of claim 1, wherein said aortic catheter further comprises a balloon at one end.

6. The graft delivery system of claim 1, further comprising a perforating guide device capable of perforating a coronary artery.

7. The graft delivery system of claim 1, wherein said second elongated instrument further comprises at least one radio-opaque marker.

8. The graft delivery system of claim 1, wherein said second elongated instrument further comprises at least a first hemostatic object capable of blocking blood flow.

9. The graft delivery system of claim 8, wherein said hemostatic object comprises a first channel, wherein said first channel directs said blood flow from one side of said first hemostatic object blocking said blood flow to a second side of said first hemostatic object.

10. The graft delivery system of claim 8, wherein said first hemostatic object comprises a second channel housing a perforating guide device.

11. The graft delivery system of claim 10, wherein said perforating guide device is flexible with a sharp end to perforate said coronary artery.

12. The graft delivery system of claim 6, wherein said second elongated instrument further comprises a flange to direct said perforating guide device towards said coronary artery wall to perforate said coronary artery.

13. The graft delivery system of claim 8, wherein said first hemostatic object is a balloon.

14. The graft delivery system of claim 8, wherein said second elongated instrument further comprises a second hemostatic object capable of being positioned with respect to said first hemostatic object to form a hemostatic chamber within said coronary artery.

15. The graft delivery system of claim 14, wherein said first and said second hemostatic objects comprise a first channel that extends between said first and said second hemostatic objects and is capable of directing said blood flow from one side of said first hemostatic object blocking said blood flow to a side of said second hemostatic object not facing said first hemostatic object.

16. The graft delivery system of claim 14, wherein said first and said second hemostatic objects are balloons.

17. The graft delivery system of claim 1, wherein one end of said retrieving device is magnetic or electrically charged having an opposite polarity than said aortic guide device and said coronary guide device.

18. The graft delivery system of claim 1, wherein one end of said retrieving device comprises a cone-shaped hollow device.

19. The graft delivery system of claim 1, wherein the said retrieving device is steerable.

20. The graft delivery system of claim 1, further comprising a coupler at each end of said graft.

21. The graft delivery system of claim 20, wherein said coupler is deformable.

22. The graft delivery system of claim 20, wherein said coupler comprises at least one sharp prong.

23. The graft delivery system of claim 20, wherein said coupler includes at least one prong, at least one staple, at least one pin, at least one barb, or a combination thereof.

24. The graft delivery system of claim 20, wherein said coupler further comprises a bio-compatible adhesive or sealant.

25. The graft delivery system of claim 20, wherein said coupler includes a wire to attach one end of said graft to said coronary artery and other end of said graft to said aorta.

26. The graft delivery system of claim 20, wherein said coupler comprises a compressible ring that is capable of forming back to its original shape.

27. The graft delivery system of claim 26, wherein said ring is made of Nitinol, stainless steel, titanium, polyimide, super-elastic alloys, or combinations thereof

28. The graft delivery system of claim 26, wherein said ring is capable of attaching to each end of said graft.

29. The graft delivery system of claim 26, further comprising a conical-shaped device at least one end of said graft, wherein said ring is compressed within said conical-shaped device.

30. The graft delivery system of claim 26, wherein one end of said ring is connected to said graft by a downward-direction flexible appendage, prong, staple, pin, barb, or a combination thereof.

31. The graft delivery system of claim 29, wherein said ring is compressed inside said conical-shaped device at said exterior of said patient's thoracic region.

32. The graft delivery system of claim 29, wherein said conical-shaped device is tapered and angled.

33. The graft delivery system of claim 1, further comprising a sheath within said graft.

34. The graft delivery system of claim 1, wherein said third elongated instrument comprises a thoracic catheter.

35. The graft delivery system of claim 34, wherein said thoracic catheter in its diameter further comprises a step-off to limit forward movement of said catheter.

36. The graft delivery system of claim 1, further comprising an enlarging instrument at each end of said graft.

37. The graft delivery system of claim 36, wherein said enlarging instrument comprises a dilator or cutter.

38. The graft delivery system of claim 36, wherein said enlarging instrument comprises a marker to detect said graft's position.

39. The graft delivery system of claim 38, wherein said marker is a radio-opaque marker.

40. The graft delivery system of claim 1, further comprising a fiber optic light/video camera system.

41. A method for installing a graft using said graft delivery system of claim 1 comprising:

a) inserting said first elongated instrument into said patient's vascular system;

b) navigating said first elongated instrument to a pre-determined location in the aorta of said patient;

c) protruding said aortic guide device from said aorta, thereby creating an aorta aperture;

d) inserting said second elongated instrument into said patient's vascular system;

e) navigating said second elongated instrument to a pre-determined location in said coronary artery;

f) protruding said coronary guide device to the outside of said coronary artery, thereby creating a coronary aperture;

g) creating a thoracic aperture in thoracic region of said patient;

h) retrieving said aortic guide device and extracting said aortic guide device with said retrieving device and retrieving said coronary guide device and extracting said coronary guide device with said retrieving device from said thoracic region of said patient to outside of said thoracic region of said patient;

i) inserting said third elongated instrument through said thoracic aperture, wherein said third elongated instrument is within said graft, and said coronary guide device is threaded through said third elongated instrument to provide a navigation path for said third elongated instrument to said coronary aperture;

j) navigating said third elongated instrument with said graft to said coronary aperture;

k) attaching the distal end of said graft to said coronary aperture to make a fluid tight connection;

l) inserting the distal end of said aortic catheter into the proximal end of said graft and navigating said proximal end of said graft to said aorta aperture; and

m) attaching said proximal end of said graft to said aorta aperture to make a fluid tight connection.

42. The method of claim 41, further comprising a coupler attached to the distal end of the graft and wherein said coupler is compressed within a conical-shaped device and said conical-shaped device is inserted entirely through said coronary aperture.

43. The method of claim 42, further comprising releasing a coupler from within said conical-shaped device to attach said coronary artery to said graft.

44. The method of claim 43, further comprising removing said conical-shaped device from said coronary artery.

45. The method of claim 41, wherein said aortic catheter further comprises a balloon at one end to hold said proximal end of said graft and wherein said aortic catheter and said balloon are extracted through said thoracic aperture and engage said proximal end of said graft.

46. The method of claim 41, further comprising a coupler attached to the proximal end of the graft and wherein said coupler is compressed within a conical-shaped device and said conical-shaped device is inserted through said aorta aperture.

47. The method of claim 46, further comprising releasing said coupler at said proximal end of said graft from within said conical-shaped device to attach said aorta to said proximal end of said graft.

48. The method of claim 41, further comprising removing from said coronary artery said third elongated instrument before inserting said distal end of said aortic catheter into proximal end of said graft.

49. The method of claim 41, further comprising removing said first elongated instrument after attaching said proximal end of said graft to said aorta.

50. The method of claim 41, further comprising removing said second elongated instrument and said first elongated instrument.

51. The method of claim 41, wherein said coronary catheter is navigated to a pre-determined location in said coronary artery by said coronary guide device.

52. The method of claim 41, wherein said retrieving device is a magnetic, electrically charged, or a cone-shaped hollow device end to retrieve said aortic guide device and said coronary guide device.

53. The method of claim 41, wherein said third elongated instrument is a thoracic catheter having a hemostatic object and is inserted into the said graft at exterior of said patient's

thoracic region and wherein said thoracic catheter is used to navigate said graft to said coronary aperture.

54. The method of claim 41, further comprising a coupler at each end of said graft, wherein said couplers are attached to said graft outside of said thoracic region.

55. The method of claim 54, wherein distal end of said coupler at each end of said graft is compressed within a conical-shaped device at each end of said graft.

56. The method of claim 54, wherein said coupler at each end of said graft is a compressible ring.

57. The method of claim 55, wherein said conical-shaped device at each end of said graft includes a dilator to dilate said coronary aperture and said aorta aperture.

58. The method of claim 54, wherein said coupler at each end of said graft is attached to said graft by withdrawing a sheath with or without expanding a hemostatic object.

59. The method of claim 54, wherein said coupler within a conical-shaped device at distal end of said graft is released from within said conical-shaped device by advancing the conical-shaped device relative to the position of the coupler, which is maintained in position by inflation of a balloon component of said third elongated instrument

60. The method of claim 41, further comprising inserting a fiber optic light/video camera system through said thoracic aperture.

61. A coupling device for attaching a graft used in a by-pass procedure comprising a graft, a coupler, and a conical-shaped device, wherein said coupler is attached to at least one end of said graft and is compressed within said conical-shaped device.

62. The coupling device of claim 61, wherein said coupler is attached into each end of said graft.

63. The coupling device of claim 61, wherein said coupler comprises a compressible ring that is compressed in a conical-shaped device at each end of said graft.

64. The coupling device of claim 61, wherein said coupler is capable of connecting to said graft by a downward-direction flexible appendage, prong, staple, pin, barb, or a combination thereof, that are attached to the compressible ring by means of flexible wire arms, that may be distensible, or arms of other materials.

65. The coupling device of claim 63, wherein said ring further includes a bio-adhesive material.

66. A graft delivery system using a mammary artery comprising:

a first elongated instrument that is insertable into a patient's vascular system, wherein said first elongated instrument comprises a mammary catheter and a mammary guide device capable of navigating said mammary catheter to said patient's mammary artery at a pre-determined location;

a second elongated instrument that is insertable into said patient's vascular system, wherein said second elongated instrument comprises a coronary catheter and a coronary guide device capable of navigating said coronary catheter to a coronary artery at a pre-determined location; and

a retrieving device capable of retrieving said mammary guide device and said coronary guide device and extracting said mammary guide device and said coronary guide device through a thoracic aperture in said patient.

67. The graft delivery system of claim 66, further comprising a third elongated instrument that is insertable from said exterior of said patient's thoracic region into said patient

through said thoracic aperture and is navigated by said mammary guide device, wherein said third elongated instrument delivers a coupler to a severed end of said mammary artery.

68. The graft delivery system of claim 66, wherein said first elongated instrument delivers a coupler to said severed end of said mammary artery.

69. The graft delivery system of claim 66, wherein said first elongated instrument further comprises at least one hemostatic object.

70. The graft delivery system of claim 66, wherein said mammary guide device protrudes outside of said patient's thoracic region.

71. The graft delivery system of claim 66, wherein said coronary catheter protrudes outside of said patient's thoracic region.

72. The graft delivery system of claim 66, wherein one end of said retrieving device is magnetic or electrically charged having an opposite polarity than said mammary guide device.

73. The graft delivery system of claim 66, wherein one end of said retrieving device comprises a cone-shaped hollow device.

74. The graft delivery system of claim 66, wherein said coupler comprises a compressible ring that is capable of forming back to its original shape.

75. The graft delivery system of claim 74, wherein said ring is compressed inside a conical-shaped device.

76. The graft delivery system of claim 75, wherein said ring is compressed inside said conical-shaped device at said exterior of said patient's thoracic region.

77. The graft delivery system of claim 66, further comprising a sheath over said coupler.

78. A method for using a mammary artery as a graft using said graft delivery system of claim 69 comprising:

a) creating a thoracic aperture

b) inserting said mammary guide device into said patient's vascular system;

c) cutting the mammary artery to create a severed end thereof;

d) navigating the distal end of said mammary guide device to protrude out of the severed end of said mammary artery;

e) inserting said second elongated instrument into said patient's vascular system;

f) navigating said second elongated instrument to a pre-determined location in said coronary artery;

g) protruding said coronary guide device to the outside of said coronary artery, thereby creating a coronary aperture;

h) retrieving said mammary guide device and extracting said mammary guide device with said retrieving device and retrieving said coronary guide device and extracting said coronary guide device with said retrieving device and from said thoracic region of said patient to outside of said thoracic region of said patient;

i) inserting a thoracic elongated instrument into said patient by way of the thoracic aperture and navigating the distal end of the thoracic elongated instrument through the severed end of the mammary artery such that the distal end of the thoracic elongated instrument exits through the insertion point of the mammary guide device;

j) removing the mammary guide device from the patient and inserting the distal end of the coronary guide device into the proximal end of the thoracic elongated instrument and navigating the distal end of the coronary guide device such that the distal end of the coronary

guide device exits out the patient through the insertion point of the mammary guide device of the patient; and

k) attaching said severed end of said mammary artery to said coronary aperture to make a fluid tight connection.

79. The method of claim 78, further comprising inserting a third elongated instrument through said thoracic aperture, wherein said third elongated instrument delivers a coupler to said severed end of said mammary artery, and said mammary guide device is threaded through said third elongated instrument to provide a navigation path for said third elongated instrument to said severed end of said mammary artery.

80. The graft delivery system of claim 78, wherein said first elongated instrument delivers a coupler to said severed end of said mammary artery.

81. The method of claim 78, further comprising inserting a conical-shaped device in said severed end of said mammary artery, wherein said conical-shaped device includes said coupler.

82. The method of claim 81, further comprising inserting said conical-shaped device, at said severed end of said mammary artery, entirely through said coronary aperture.

83. The method of claim 82, further comprising releasing said coupler at said severed end of said mammary artery from within said conical-shaped device to attach said coronary artery to said severed end of said mammary artery.

84. The method of claim 79, further comprising removing said third elongated instrument after delivering said coupler to said severed end of said mammary artery.

85. The method of claim 78, further comprising removing said first elongated instrument after attaching said coronary catheter to said severed end of said mammary artery.

86. The method of claim 78, further comprising removing said second elongated instrument after attaching said severed end of said mammary artery to said coronary artery.

87. The method of claim 78, wherein said thoracic catheter further comprises a balloon at one end to hold said severed end of said mammary artery and wherein said thoracic catheter and said balloon are attached to said severed end of said mammary artery.

88. The method of claim 78, wherein said mammary catheter is navigated to a pre-determined location in said coronary artery by said coronary guide device.

89. The method of claim 78, wherein said retrieving device is a magnetic, electrically charged, or a cone-shaped hollow device end to retrieve said aortic guide device and said coronary guide device.

90. The method of claim 79, wherein said third elongated instrument is a thoracic catheter having a coupler wherein said thoracic catheter is used to navigate said coupler to said severed end of said mammary artery.

91. The method of claim 79, wherein said coupler is compressed within a conical-shaped device outside of thoracic region of said patient, and wherein said conical-shaped device is delivered to said severed end of said mammary artery by said third elongated instrument

92. The method of claim 78, wherein said coupler is a compressible ring.

93. The method of claim 91, wherein said conical-shaped device at severed end of said mammary artery includes a dilator to dilate said coronary aperture.

94. The method of claim 78, wherein said coupler at said severed end of mammary artery is attached to said mammary artery by withdrawing a sheath and expanding a hemostatic object within said thoracic catheter.

95. The method of claim 92, wherein said coupler at said severed end of said mammary artery is released from within said conical-shaped device by by advancing the conical-shaped device relative to the position of the coupler, which is maintained by inflation of a balloon component of said third elongated instrument.

96. The method of claim 79, further comprising inserting a fiber optic light/video camera system through said thoracic aperture.

97. The graft delivery system of claim 34, wherein said thoracic catheter in its diameter is shaped so as to evert the end of the graft.

98. The method of claim 54, wherein said coupler within a conical-shaped device at the proximal end of said graft is released from within said conical-shaped device by a balloon within said first elongated instrument that is slightly deflated to press against a conical-shaped device but not against said graft, thereby releasing said coupler to attach said graft to said aorta.

99. A method for installing a graft in a patient comprising;

a) protruding an aortic guide device from the aorta of said patient, thereby creating an aorta aperture;

b) protruding a coronary guide device to the outside of a coronary artery, thereby creating a coronary aperture;

c) navigating a third elongated instrument with said graft to said coronary aperture and attaching said graft to said coronary aperture; and

d) inserting the distal end of an aortic catheter into the proximal end of said graft and navigating the proximal end of said graft to said aorta aperture and attaching said graft to said aorta aperture.

100. A method for installing a mammary artery as a graft in a patient comprising:

a) navigating the distal end of a mammary guide device to protrude out of the severed end of a mammary artery;

b) protruding a coronary guide device to the outside of the coronary artery of said patient, thereby creating a coronary aperture;

c) navigating the distal end of a thoracic elongated instrument through the severed end of the mammary artery such that the distal end of the thoracic elongated instrument exits the patient; and

d) inserting the distal end of the coronary guide device into the proximal end of the thoracic elongated instrument and navigating the severed end of said mammary artery with the thoracic elongated instrument to the coronary aperture and attaching severed end to the coronary aperture.

101. The graft delivery system of claim 17, wherein said retrieving device is magnetic at its apical aperture.

102. The graft delivery system of claim 26, wherein one end of said compressible ring is connected to said coronary artery by a barb, prong, staple, pin, or a combination thereof.

103. The graft delivery system of claim 26, wherein said compressible ring expands within a lumen of a vessel and conforms to the internal geometry of said vessel.

104. The method of claim 57, wherein said dilator dilates said coronary aperture prior to passing a thoracic catheter through said coronary aperture.

105. The graft delivery system of claim 66, wherein said mammary catheter further comprises a hemostatic object.